

## CLAIMS

1. [We claim] an apparatus for a simplified power disturbance detection and indicator gage with learning capability options, wherein said gage comprises a two-part apparatus, a plurality of alphanumeric displays, a plurality of light emitting diode indicators, a plurality of bar graph displays, a plurality of switches, multiple input terminals, interconnecting cable and associated connectors, a means for connection to a single phase or polyphase power mains, analysis circuits for determining the existence and duration, or alternatively, the non-existence of specific power line anomalies which affect the operation or process of electronic devices or machinery connected thereto, and a means for memorizing the indicated anomalies from previous measured values without the need for complicated graphs or analysis by experienced technicians or engineering professionals.

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2. [We claim] an apparatus for a simplified power disturbance detection and indicator gage of claim 1, whereby said gage consists of a first connection unit part and a second measurement and display part, said parts interconnected by a cable assembly and weather proof connectors over a distance extending from zero to 1000 feet

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3. [We claim] an apparatus for a simplified power disturbance detection and indicator gage of claim 2, whereby both the connection and the measurement and display parts may be unified into a single gage.

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4. [We claim] an apparatus for a simplified power disturbance detection and indicator gage of claim 1, whereby said alphanumeric displays can display a nominal voltage from 117 volts RMS to 480 volts RMS.

5. [We claim] an apparatus for a simplified power disturbance detection and indicator gage of claim 4, whereby a manual switch can select either a WYE or a DELTA connection for polyphase line power.

6. [We claim] an apparatus for a simplified power disturbance detection and indicator gage of claim 1, whereby a plurality of light emitting diode or incandescent indicators on each phase can display whether a specific anomaly is either a voltage sag or dropout, a voltage spike or surge, or a normal voltage, whereby said indicators are color-coded amber, red, or green according to the cited designation, with a light emitting diode bar graph indicates the duration of the anomaly.

10 7. We claim an apparatus for a simplified power disturbance detection and indicator gage of claim 6, whereby linear bar-graphs display the duration of each measured anomaly, wherein each bar segment of said bar graph displays represent a half-cycle of loss, wherein at a line frequency of 60 hertz, each half cycle represents a duration of 8.33 milliseconds, and wherein said bar-graphs have data latching capability to store displayed information as needed.

15 8. We claim an apparatus for a simplified power disturbance detection and indicator gage of claim 7, whereby selection can be made for a line frequency of 50 hertz, whereby each bar segment will represent a duration of ten milliseconds

20 9. We claim an apparatus for a simplified power disturbance indicator gage of claim 1, wherein said operation or processes of electronic devices includes computers, manufacturing devices such as numerically controlled milling or production machinery, or industrial processing machinery.

10. [We claim] an apparatus for a simplified power disturbance indicator gage of claim 1, wherein said learning capability can be either from analyzing previously measured data or from a data base which can be entered by an operator by means of a data port.